



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/532,912

04/27/2005

Giuseppe Montalbano

FR030009 US

4943

25235 7590 12/24/2008  
HOGAN & HARTSON LLP  
ONE TABOR CENTER, SUITE 1500  
1200 SEVENTEENTH ST  
DENVER, CO 80202

EXAMINER

TIMORY, KABIR A

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/532,912	<b>Applicant(s)</b> MONTALBANO, GIUSEPPE	
	<b>Examiner</b> KABIR A. TIMORY	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Response to Arguments**

1. This office action is in response to the amendment filed on 09/19/2008. Claims 1-19 are pending in this application and have been considered below.
2. The objection to the specification is corrected by the amendment. Therefore, the objection is withdrawn.
3. The objections to the claims are corrected by the amendment. Therefore, the objections are withdrawn.
4. The rejection under 35 USC 112 2<sup>nd</sup> paragraph to claims 1-19 is corrected by the amendment. Therefore, the rejection is withdrawn.
5. Applicant's arguments with respect to claim 1 have been considered but are moot in view of new ground(s) of rejection.

### ***Claim Objections***

6. Claims 1-2, 4-8, 14, 15-18, and 19 are objected to because of the following informalities:

Claim sets forth plurality of elements or steps, each element or step of the claim should be separated by a **line indentation**, 37 CFR1.75(i).

7. Claims 4-7 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims *should* refer to other claims in the alternative only --, and/or,-- cannot depend from any other multiple dependent claim--. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

**Appropriate correction is required.**

### ***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 and 19 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another

---

<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Art Unit: 2611

statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example **identify the apparatus that accomplishes the method steps**, or positively recite the subject matter that is being transformed, for example identify the material that is being changed to a different state.

### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) Claim 15 is a Hybrid claim, in that it comprises two statutory groups. The claim simultaneously claims both statutory classes (an apparatus “**an estimator**” in line 1 and a method in line 6). Thus, the claim is unclear as to which statutory class is intended to be claim.

(2) Claim 15 recites the limitation "said method" in line 6. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2611

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**12. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson et al. (US 2003/0099216) in view of Dabak et al. (US 7346121).**

**Regarding claims 1 and 15:**

As shown in figures 1-6, Nilsson et al. disclose a method for estimating a propagation channel in a presence of transmit beamforming (abstract, par 0018, lines 1-6), accounting for a structure of two logical channels (CPICH, DPCI-I) and based on a common structure of corresponding propagation channels (abstract, par 0007, lines 1-11, par 0033, lines 1-18), one (DPCH) of said two logical channels comprising two sub-channels (DPDCH, DPCCH) (302 in figure 3), said method includes

- as a linear superposition of a finite number of discrete multipath components (signal component samples is interpreted to receive a finite number of discrete multipath components) ( $p=1, \dots, P$ ) following an uncorrelated-scattering wide-sense stationary model (par 0010, lines 1-11, par 0084, lines 1-14), and wherein
- a multipath component is characterized by a time-varying (par 0032, lines 8-10) multipath complex coefficient ( $C_p(t)$  and  $\beta_p C_p(t)$ ) and a delay ( $T_p$ ) (par 0007, lines 1-11, par 0011-par 0016).

Nilsson et al. disclose all of the subject matter as described above except for specifically teaching providing channel estimation in a multipath environment to acquire a beamforming complex factor by modeling said propagation channels.

However, Dabak et al. in the same field of endeavor teach providing channel estimation (56 in figure 2) in a multipath environment (figure 1 shows a multipath environment) to acquire a beamforming (56 in figure 2) complex factor by modeling said propagation channels (col 10, lines 43-64). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the matched filter as taught by Dabak et al. to modify the system and method of Nilsson et al. in order to ensure accurate channel estimation.

#### ***Allowable Subject Matter***

13. Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome 35 USC 112 2nd paragraph rejection.

14. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Nilsson et al. does not teach or suggest the limitations in claims 16 and 17.

#### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KABIR A. TIMORY whose telephone number is

Art Unit: 2611

(571)270-1674. The examiner can normally be reached on 6:30 AM - 3:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kabir A Timory/

Examiner, Art Unit 2611

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611